For many years, Americans have been known as the lagging rear guard in the environmental movement. Our casual, unceasing consumption of non-renewable resources like petroleum has made us the curse of other more environmentally conscious nations. Fortunately, America is working to change its image, and businesses are leading the charge. Rising material costs are causing many American business leaders to realize that including the three “R’s” – Reduce, Reuse, and Recycle - in their daily operations can lead to creative thinking and significant savings.

**Waste-to-Energy**

Most of us stop thinking about garbage once we’ve put it into a trash can. However, for companies like Wheelabrator, Covanta, Montenay, and other proponents of Waste-to-Energy (WTE), that’s just the start of an innovative process designed to reduce landfill size and greenhouse gases.

These companies specialize in technology that burns trash instead of simply dumping it into a landfill. WTE plants incinerate the garbage to produce steam in a boiler. Like conventional power plants, the steam drives a turbine generator that creates electricity. Currently, the United States has 103 WTE plants which produce enough electricity to power 2.4 million households.

While some people worry that industrial trash burning will release dangerous chemicals, the reality is that it’s far more dangerous to burn your own trash. Backyard and other types of uncontrolled burning accounts for 50% of the U.S.’s dioxin emissions, while over the last twenty years dioxin in WTE plants has dropped to insignificant levels, thereby driving the development of new WTE plants. Other benefits of WTE plants include reducing our use of fossil fuels such as coal and petroleum, enabling the recovery of ferrous and nonferrous metals, and producing other products from the ash of the burned garbage.

**Biodiesel: The New Fuel for Diesel Fleets**

Garbage is not the only energy source that companies are using to run their business. Industries which rely on heavy vehicles are turning to biodiesel to run their fleets. Biodiesel is manufactured from vegetable oils, recycled cooking greases or oils, or animal fats, and can be used in any diesel engine. Its benefits range from reduced reliance on imported oil to reductions in engine emissions. As air quality standards increase, many fleet managers have realized that biodiesel is the least-cost strategy to comply with government regulations.

Even businesses that don’t own trucking fleets but rely on them daily are beginning to encourage biodiesel use. For example, CaseStack, Inc., a shipping logistics company, offered a rebate of ten cents per gallon, up to fifty dollars, to truckers who used biodiesel fuels while carrying CaseStack loads this past summer. The federal government is also trying to promote biodiesel. In June, 2006, Congressmen Earl Pomeroy (D-ND) and Kenny Hulshof (R-MO) introduced the bipartisan Renewable Fuels and Energy Independence Promotion Act, which would make permanent the federal excise tax credit for biodiesel.

*Continued on Page 3*


**ENERGY SAVINGS IDEAS**

**Zampell Company Spotlight: Zampell Insulation**

**NIA Insulation Energy Appraisal 3E Plus® Program**

The good news is that energy costs have gone down relative to the record-setting highs in early 2006. The better news is that there are still plenty of opportunities to insulate and save real money now, and ZI can help you do it with an NIA energy appraisal.

**Identify it!**

The first step is to find an opportunity to save with insulation. For example, a recent customer identified a 90’ section of 6” steam piping.

**Analyze it!**

Using the NIA 3E Plus Program, ZI engineers can calculate the energy cost of the bare versus insulated 90’ pipe section.

<table>
<thead>
<tr>
<th>Bare Surface</th>
<th>Insulated (3” Mineral Fiber)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy cost ($/ft./yr.)</td>
<td>$366.00</td>
</tr>
<tr>
<td>Heat loss (BTU/ft./yr.)</td>
<td>29,060,000</td>
</tr>
<tr>
<td>Energy cost ($/yr.)</td>
<td>$32,940.00</td>
</tr>
</tbody>
</table>

**Insulate and save!**

With the 3” mineral fiber jacketed insulation, the annual savings is $31,567.00… resulting in a 3-month payback on the project!

In addition to energy savings, the insulation has environmental benefits regarding greenhouse gas savings over an annual cycle.

**CO₂ (lbs)** ............... 534,132

**NOx (lbs.)** ............ 1,031

**Carbon equivalents (lbs.)** 145,588

**Interested in your own NIA appraisal?** Call ZI at 207-786-2400 or any of your ZR offices.

**Energy Audit Uncovers Potential Savings**

In a steel reheat furnace, ZR performed an analysis of the existing roof lining consisting of refractory plastic. After proposing a 12” 2600°F ceramic fiber module lining, ZR ran a Unifrax energy audit to determine both heat loss and energy savings. The lining cut heat loss through the roof by more than 50%!

**In a steel reheat furnace, ZR performed an analysis of the existing roof lining consisting of refractory plastic. After proposing a 12” 2600°F ceramic fiber module lining, ZR ran a Unifrax energy audit to determine both heat loss and energy savings. The lining cut heat loss through the roof by more than 50%!**

**Rotary Kiln Insulation Options**

Heat loss through the shells of rotary kilns has always been a sensitive area, as operators need to balance the cost of energy with the stability of a rotary lining.

Although energy prices have come down as we approach 2007, the cost of energy is still a huge percentage of a plant’s production costs, meaning all efforts to cut heat losses will be reflected in the bottom line.

Two things are obvious:

1. Any opportunity to cut energy loss in a rotary kiln should be evaluated.

2. The decision to insulate a rotary kiln lining should be carefully considered to maximize stability and performance.

Using Zampell’s extensive experience and working in conjunction with our refractory suppliers, we work with our kiln customers to recommend the best approach that maximizes both heat savings and performance.

To date, approximately 30% of our rotary kiln customers utilize some kind of insulation in portions of their kilns. While the following chart does not show every option, it gives a few examples of how insulation makes a real difference in specific areas of a rotary kiln.

Depending on the price of fuel, rotary kiln insulation options such as these can add tens of thousands of dollars to the plant’s annual bottom line!

**Interested in your own NIA appraisal?** Call ZI at 207-786-2400 or any of your ZR offices.

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<table>
<thead>
<tr>
<th>Hotface</th>
<th>1800°F</th>
<th>1800°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lining</td>
<td>9” 60% brick</td>
<td>9” 60% low cement castable</td>
</tr>
<tr>
<td>Approx. heat loss (BTU/ft²)</td>
<td>1890</td>
<td>1655</td>
</tr>
<tr>
<td>Approx. shell temp. (°F)</td>
<td>530</td>
<td>510</td>
</tr>
<tr>
<td>9½” 60% low cement castable</td>
<td>895</td>
<td>860</td>
</tr>
<tr>
<td>½” kiln insulation</td>
<td>375</td>
<td>360</td>
</tr>
</tbody>
</table>
NEW PRODUCTS

Spray Linings Offer Lightweight Solutions

As both energy and installation costs continue to escalate, ZR customers continue to look for products and/or technology to maximize quality and cost effectiveness. Working with Unifrax, ZR has successfully installed Foamfrax RG—a technology that delivers properties better than mineral wool block in a spray application.

Recently, Zampell installed Foamfrax RG in a stack of an industrial process. Typically, the stack was insulated with ceramic fiber blanket anchored with stainless steel pins and clips. The corrosive atmosphere led to a premature failure of the anchoring system. With Foamfrax RG, the anchoring system was installed and the Foamfrax RG was sprayed to the required thickness. Aside from protecting the anchoring system, the Foamfrax RG provides a faster, lightweight, one-component lining that withstands the stack conditions.

TRAINING

CUSTOMER TRAINING

ZR Conducts Pulp & Paper Seminars

In the summer of 2006, Zampell Refractories, South Division held seminars for pulp & paper customers in Georgia and Florida. The seminars, done in conjunction with Harbison Walker, covered topics including modern installation practices, Refractories 101, refractory materials for paper kilns and recovery boilers, and ideas to cut heat losses and save energy.

The pulp & paper industry is a key market for Zampell, and supplying the most current information to the industry is important in our service. The feedback on the presentations was very positive and more are scheduled for 2008.

INTERNAL TRAINING

Annual Supervisors Training a Hit!

In July, all ZR field supervisors, safety coordinators and division management were gathered in Newburyport for the Third Annual Supervisors Training Session. Topics included improved toolbox talks, employee relations, updated safety training and certification for CPR and defibrillators. According to Bruce Campbell, “We always get a lot out of these programs, and it gives us a chance to talk about things with the other supervisors.”

Environmentalism Gets Down to Business

Continued from Page 1

Leading the Way to Greener Computers

Transportation is not the only area in which businesses are seeking green solutions. Soon businesses who purchase large volumes of computers will have access to environmentally responsible computer equipment from makers such as Hewlett-Packard and Dell. The EPA has developed new standards called the Electronic Products Environmental Assessment Tool (EPEAT). Products registered and tested with EPEAT have less toxic metals, the government’s Energy Star seal of approval, and are easier to upgrade and recycle. The Environmental Protection Agency estimates that over the next five years, purchases of EPEAT registered computers will result in reductions of:

- More than 13 million pounds of hazardous waste.
- More than 3 million pounds of non-hazardous waste.
- More than 600,000 MWh of energy–enough to power 6 million homes.

“Sustainability is Good Business”

Environmentalism is no longer the domain of fringe hippies and tree-huggers. Every day, a host of incentives and innovations become available to businesses who want to operate in a more environmentally friendly fashion. As companies seek out environmentally responsible products and technologies, they are paving the way for green products to be offered to individual consumers. If the EPEAT registry is successful, the EPA and the Green Electronic Council hope to expand to individual purchasers. Even Jeep is getting into the biodiesel market with the new Grand Cherokee CRD, its first diesel-powered SUV, which will be shipped from the factory with a biodiesel blend in the tank.

Thanks to the influence of businesses, it’s only a matter of time before green options are everywhere. As Dan Sanker, CEO of CaseStack, Inc. says, “sustainability is good business.”

1 Source: http://www.eia.doe.gov/kids/energyfacts/saving/recycling/oldwaste/wastetoelectricity.html
4 www.casestack.com
The Zampell Family of Companies: The Leading East Coast Provider of Industrial Services & Products

Zampell Refractories® is part of the Zampell family of companies. For over 35 years, Zampell has built its reputation on one common philosophy: “A legacy of quality and craftsmanship is embodied in everything that bears the name Zampell.”

Today, Zampell has a truly strong East Coast reach, with services and products available in Auburn, ME, Newburyport, MA, Putnam, CT, Warrington, PA, and Tampa, FL, reaching over three thousand total customers. Few commercial companies have the distribution, reputation and cross-platform capability that Zampell has throughout the east. To learn more about our capabilities, products and services, visit all of us at www.zampell.com.

About Zampell Companies

Spanning over 7 decades, Zampell is a name that signifies a heritage of excellence and craftsmanship.

President’s Message

When my father started Zampell Refractories in 1966, he needed two attributes to succeed: craftsmanship, as seen in his everyday work, and integrity, meaning his customers could always trust him to carry out what he promised. Today, as my son, the third generation for our company, enters the business, these core values are ever present and continually important.

As my father would repair the linings of boilers and small furnaces, the customer began to trust his craftsmanship, asking him to make other needed repairs related to the operation of the plant. These services ranged from concrete work to burner repairs to overall plant maintenance, and set the stage for a Zampell tradition of building trusting customer relationships with diversified services, all of which are founded on craftsmanship and integrity.

Today, the idea of delivering diversified services to Zampell customers is integral to our business philosophy. Many Zampell customers look to us to provide services related to our core refractory business, very much like the customers of my father’s era, because we continue to emphasize the importance of instilling a sense of security for the customer with our own actions. With our core values of craftsmanship and integrity, we can continue to provide a high level of service in refractory, but in so many other areas too. That’s why ZR works arm and arm with Zampell Insulation, as the refractory and insulation jobs are often closely linked. Relative to overall plant and building maintenance, we started Zampell Building Services over 10 years ago, a company that now maintains over 14 million square feet per day! A related company, Custodial Partners, began one year ago to sell janitorial supplies throughout New England. Presently, we continue to investigate additional diversified services such as scaffolding and customized plant maintenance.

Just like 40 years ago, my highest priority is to continue to serve our customers’ needs with great craftsmanship and integrity, reinforcing the trust that our customers have in our value-related services.

As always, thank you for your business!

Jim Zampell

“A legacy of quality and craftsmanship is embodied in everything that bears the name Zampell.”